Summary of Workshop

- Thank you all !
- Workshop theme was to “Move beyond the Technical Design Proposal”
  - Looks like we really achieved that goal
- The success is measured in how well we do in our follow-up

Sensors, Layer 1

- Goal: Complete comparison ELMA and HPK sensors
  Goal: Filled out sensor vendor evaluation form
  Goal: Decide on vendor ELMA, HPK if possible
  - Need information from irradiation studies to make a fair and complete comparison
  - Regina will write-up a a summary of the comparison of all electrical characteristics of the sensors by the end of next week
  - Irradiation studies of Layer 1 sensors will be resumed Jan. 20
  - Irradiation studies will be completed 2 weeks later
- Oxygenation of sensors at ELMA will not be pursued
- Single- or double-sided polished wafer are acceptable for processing
- New masks for Layer 1 ELMA sensors ready in 3 weeks
  - Do we need that?
- Fermilab will pursue use of 'Haggerty' diodes to measure V_{depl} by the end of the year
- Alice and Marcel will write the list of requirements before production order can be placed by the end of the year

Sensors, Outer Layers

- Irradiation studies to commence right away
- Dose profile:
  - 12/13 – 2.0 E12 1 MeV n equivalent
  - 12/17 – 5.0 E12 1 MeV n equivalent
  - 12/20 – 10.0 E12 1 MeV n equivalent
  - 12/24 – 20.0 E12 1 MeV n equivalent
  - Total dose: – 1.12 E14 1 MeV n equivalent
- Completion of probing and irradiation studies of outer layer sensors by January 20
- Stony Brook probe site fully operational by second week of January
  - Will receive then certification sensors
- Regina will study impact of not relying on Cinvestav for probing by mid-January
  - in terms of redistribution of workload
  - impact on labor cost
- Alice and Marcel will write the list of requirements for production for outer layer sensors by the end of the year

Readout

- Goals: Agree on mapping scheme for whole detector
  - Has to be deferred until after the shutdown.
  - However, two weeks after the shutdown:
    - » Complete proposal for mapping
    - » Proposal for Interface Board backplanes
    - » Determine need for 2-channel Adapter Cards
    - » Determine the physical size of the Adapter Card
- Build mock-up of full horseshoe area by mid-February
- Draftsman needs to be identified to work on horseshoe issues immediately

- Goal: Decide on physical parameters of adapter card
  - Deferred until mapping is understood
- AC will allow for dual voltage regulation

- Goal: Complete design of LV system
  - Done! Have a complete design; need to work out details

Readout

- 1% Test needs to be given highest priority
  - Install new power supplies
  - Test of Voltage regulation
  - Test of single/dual voltage source
  - Finalize termination of single-ended signals
  - Decide on bypassing of the clocks on Adapter Card or not
  - Decide on actual layout of the Junction Card

  - All Done by April 1 ?

- Decision to go with 2.5 mm high AVX connector
  - Connectors will be tested by the end of next week to uncover potential problems
  - New cables from Basic will be outfitted with 2.5mm connectors
  - Bill will double check clearances by the end of next week

Staves

- PEEK baseline for cooling tubes
- Pressure test complete stave and measure silicon-silicon spacing next week
- Revised QC document for cooling tubes and stave cores by end of next week
- By January 15:
  - 12 Sensors probed and tested for module assembly
  - All mechanical tests performed on mechanical stave
    - » thermal tests
    - » Goal: Decide on all physical parameters for the stave
  - Start populating first electrical stave (2.5mm AVX)
  - Come up with grounding scheme for staves (Marvin)

Cooling

- Manifold and Junction Card positions
  - Fully developed proposal for all locations by February 1
    - » Finalizing cables (analogue, digital 3/12/03, 3/6/03)
  - After finalization of locations, start finalization of cables
  - Try to get resources to start working on mock-up

- Goals
  - Filled out sensor vendor evaluation form
  - Decide on vendor ELMA, HPK if possible
  - Determine what is needed for PRR for layer1/0 sensors and set time scale for PRR
  - First pass at measuring specs of outer layer sensors (?)
  - Decide on physical parameters of adapter card
  - Decide on low voltage regulation and separate DVDD and AVDD or combined
  - Agree on mapping scheme for whole detector
  - Complete design of LV system
  - Decide on junction card area location
  - Decide on stave cores: materials and freeze all dimensions
  - Worked out grounding scheme for staves
  - Decide on coherent plan for hybrid production and testing
  - ...

Software

- Database
  - Cosmin is given until Jan. 13 to implement all the features needed for sensor (and hybrid) logging
  - Joni will start, in collaboration with Cosmin, to work on implementing necessary changes for hybrid tracking
  - Cecilia will try to find somebody as backup for Cosmin
    - » Action item for project: need someone with this expertise for the duration
- Unpacking software
  - Software group will start working on data unpacking code (if someone is available) with hard-coded map to be used in the 1% test